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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

JONES, PRENELL P

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/676,279	Applicant(s) O'MAHONY, BARRY A.	
	Examiner PRENELL P. JONES	Art Unit 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-14 and 16-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-14 and 16-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments with respect to claims 1-3, 5-14 and 16-22 have been considered but are moot in view of the new ground(s) of rejection.
2. Applicant argues with respect to the rejection of claims 13, 17 and 22, that the Examiner needs to provide adequate evidence to support Examiners "Official Notice" stance associated with Applicants claimed limitation of "codeword is 65 bytes in length."
3. Applicant argues that the previously cited prior art fail to teach or suggest the previously indicated allowable subject matter "the synchronization byte comprises one of two synchronization, byte values including a first synchronization byte value indicating that the codeword is an all data codeword, and a second synchronization byte value indicating that the codeword is not an all data codeword."
4. Although Examiner initially indicated that the limitation "the synchronization byte comprises one of two synchronization, byte values including a first synchronization byte value indicating that the codeword is an all data codeword, and a second synchronization byte value indicating that the codeword is not an all data codeword" contained allowable subject matter, Examiner withdraws the indication of allowable subject matter in light of updated search. In addition, Examiner has also found support for Examiners' "Official Notice" stance.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 20-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Applicant is claiming with regards to independent claim 20, "an apparatus comprising a protocol stack, comprising a MAC layer and a PHY layer." The protocol stack, MAC and PHY layers are abstract concepts, thereby making the Applicants claimed apparatus "**an abstract apparatus**," which does not meet the criteria for statutory invention. See MPEP 2106 Patent Subject Matter Eligibility.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 1-3, 12, 14-16, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leatherbury et al (US PG PUB 2002/0136231) in view of Yang et al (US 2004/0101046) and Snowden et al (US Pat 5,247,519).**

Regarding claim 1, 14 and 15, Leatherbury et al (US PG PUB 2002/0136231) discloses a communication system wherein the gateway processor encapsulates subscriber data (variable length packet) into data cells suitable for burst transmission (Abstract, paragraph 0010, 0017), and in one embodiment the encapsulation process may include framing data segments into fixed length size frames (paragraph 0012), and another embodiment wherein downstream data encapsulated into data cells, and an encoder that encodes data cells into code-words (paragraph 0018), and in another embodiment, a packetized data is

converted/configured/encapsulated into fixed sized frames or code-words (paragraph 0039, 0076), wherein the codeword achieves the status of a positive integer (paragraph 0094-0096. In addition, Leatherbury teaches a sync mark byte associated with a codeword (paragraph 0016, 0078, 0086).

Although Leatherbury is not clear on whether the sync mark byte is the first byte of the codeword, in a communication system that utilizes encapsulation Yang discloses communication system utilizing encapsulation wherein the first byte associated with a codeword code-word could include having a first byte being a MPEG sync byte (paragraph 0152, 0330 and 0349, 0350), and in a communication system, Snowden discloses a signaling scheme associated with a receiver apparatus, wherein information synchronization bits reserved in the codeword to indicate whether the codeword is an idle or data codeword (Fig. 3 and 4, col. 4, line 16-20, a first synchronization byte value indicating that the codeword is an all data codeword, and a second synchronization byte value indicating that the codeword is not an all data codeword).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement a sync byte, which is the first byte of a codeword and a first synchronization byte value indicating that the codeword is an all data codeword, and a second synchronization byte value indicating that the codeword is not an all data codeword as taught by the combined teachings of Yang and Snowden with the teachings of Leatherbury for the purpose of minimizing interference as well as increase successful communication.

Regarding claim 2, 3 and 16, Leatherbury further discloses a control byte that follows sync byte as associated with a code-word, as well as a synch marker that indicates start of (Fig. 5).

Regarding claim 12, Leatherbury further discloses transmitting codeword over a media (paragraph 0044, 0045).

Regarding claim 20-21, combined Leatherbury, Yang and Snowden discloses a communication system wherein the gateway processor encapsulates subscriber data (variable length packet) into data cells suitable for burst transmission (Abstract, paragraph 0010, 0017), and in one embodiment the encapsulation process may include framing data segments into fixed length size frames (paragraph 0012), and another embodiment wherein downstream data encapsulated into data cells, an encoder that encodes data cells into code-words (paragraph 0018), and in another embodiment, a packetized data is converted/configured/encapsulated into fixed sized frames or code-words (paragraph 0039, 0076), wherein the codeword achieves the status of a positive integer (paragraph 0094-0096), and a signaling scheme associated with a receiver apparatus, wherein information synchronization bits reserved in the codeword to indicate whether the codeword is an idle or data codeword. In addition, Leatherbury teaches a sync mark byte associated with a codeword (paragraph 0016, 0078, 0086) **and PHY coupled to MAC (Fig. 8, paragraph 0083, PHY layer coupled to MAC layer).**

Although Leatherbury is not clear on whether the sync mark byte is the first byte of the codeword, and Snowden fails to disclose a sync byte, in a communication system that utilizes encapsulation Yang further discloses a communication system utilizing encapsulation wherein the first byte associated with a codeword code-word could include having a first byte being a MPEG sync byte (paragraph 0152, 0330 and 0349, 0350).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement a sync byte, which is the first byte of a codeword as

taught by Yang with the teachings of Leatherbury and Snowden for the purpose of minimizing interference as well as increase successful communication.

9. **Claims 13, 17 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leatherbury et al (US PG PUB 2002/0136231) in view of Yang et al (US 2004/0101046) and Snowden et al (US Pat 5,247,519) as applied to claims 1 and 14 above, and further in view of Cheriton (US Pat 7,310,306).**

Regarding claim 13, 17 and 22, as indicated above, in a communication environment where MAC functionality is presented, Leatherbury, Yang and Snowden combined discloses a system wherein the gateway processor encapsulates subscriber data (variable length packet) into data cells suitable for burst transmission, one encapsulation process may include framing data segments into fixed length size frames, and another embodiment wherein downstream data encapsulated into data cells, and an encoder that encodes data cells into code-words, and packetized data is configured/encapsulated into fixed sized frames or code-words, wherein the codeword achieves the status of a positive integer, sync mark byte associated with a codeword, a first byte being a MPEG sync byte, and a signaling scheme associated with a receiver apparatus, wherein information synchronization bits reserved in the codeword to indicate whether the codeword is an idle or data codeword.

Although, Leatherbury further discloses encapsulating a number of fixed length code-words containing 204 bytes (paragraphs 0096), Leatherbury, Yang and Snowden fail to teach having a fixed length codeword with a length of 65 bytes.

In a communication environment wherein packets/codewords are communicated Cheriton discloses that it is well known in the art that a packet/codeword has a length of 65 bytes (col. 2, line 9-16, codeword is 65 bytes in length).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement a codeword with a length of 65 bytes as taught by Cheriton with the combined teachings of Leatherbury, Yang and Snowden for the purpose of accommodating intended use of invention.

10. Claim 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leatherbury et al (US PG PUB 2002/0136231) in view Yang et al (US 2004/0101046) and Snowden et al (US Pat 5,247,519) as applied to claims 1 and 14 above, and further in view of Davis et al (US Pat 5,754,764).

Regarding claims 5, as indicated above, in a communication environment where MAC functionality is presented, Leatherbury, Yang and Snowden combined discloses a system wherein the gateway processor encapsulates subscriber data (variable length packet) into data cells suitable for burst transmission, one encapsulation process may include framing data segments into fixed length size frames, and another embodiment wherein downstream data encapsulated into data cells, and an encoder that encodes data cells into code-words, and packetized data is converted/configured/encapsulated into fixed sized frames or code-words, wherein the codeword achieves the status of a positive integer, sync mark byte associated with a codeword, a first byte being a MPEG sync byte, and a signaling scheme associated with a receiver apparatus, wherein information synchronization bits reserved in the codeword to indicate whether the codeword is an idle or data codeword.

However, Leatherbury, Yang and Snowden fail to teach or suggest fairly removing a preamble and a start frame delimiter of a frame.

In another communication system wherein encapsulation utilization is utilized, Davis discloses utilizing MAC functionality (col. 61, line 54-67), wherein the frame configuration includes preamble/(start frame delimiter) SFD, wherein a stripping function is employed to strip off the preamble/SFD (col. 62, line 61 thru col. 63, line 25.)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement removing a preamble and a start frame delimiter of a frame as taught by Davis with the combined teachings of Leatherbury, Yang and Snowden encapsulation utilization for the purpose of completing transmission with minimal delay.

Regarding claims 6 and 7, as indicated above, in a communication environment where MAC functionality is presented, Leatherbury, Yang and Snowden combined discloses a system wherein the gateway processor encapsulates subscriber data (variable length packet) into data cells suitable for burst transmission, one encapsulation process may include framing data segments into fixed length size frames, and another embodiment wherein downstream data encapsulated into data cells, and an encoder that encodes data cells into code-words, and packetized data is converted/configured/encapsulated into fixed sized frames or code-words, wherein the codeword achieves the status of a positive integer, sync mark byte associated with a codeword, a first byte being a MPEG sync byte, and a signaling scheme associated with a receiver apparatus, wherein information synchronization bits reserved in the codeword to indicate whether the codeword is an idle or data codeword.

However, Leatherbury, Yang or Snowden fail to teach or suggest fairly utilizing CRC.

In another communication system wherein encapsulation utilization is utilized, Davis discloses calculating and appending the received CRC (col. 78, line 63 thru col. 79, line 22-26, line 59-66).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement removing a preamble and a start frame delimiter of a frame as taught by Davis with the combined teachings of Leatherbury, Yang and Snowden encapsulation utilization for the purpose of completing transmission with minimal delay.

Regarding claim 8, Leatherbury further discloses encapsulating a number of fixed length code-words (paragraphs 0016, 0092).

11. Claims 9-11, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leatherbury et al (US PG PUB 2002/0136231) in view Yang et al (US 2004/0101046) and Snowden et al (US Pat 5,247,519) as applied to claims 1 and 14 above, and further in view of Allison et al (US Pat 6,373,848).

Regarding claims 9-11, 18 and 19, as indicated above, in a communication environment where MAC functionality is presented, Leatherbury, Yang and Snowden combined discloses a system wherein the gateway processor encapsulates subscriber data (variable length packet) into data cells suitable for burst transmission, one encapsulation process may include framing data segments into fixed length size frames, and another embodiment wherein downstream data encapsulated into data cells, and an encoder that encodes data cells into code-words, and packetized data is configured/encapsulated into fixed sized frames or code-words, wherein the codeword achieves the status of a positive integer, sync mark byte associated with a codeword,

a first byte being a MPEG sync byte, and a signaling scheme associated with a receiver apparatus, wherein information synchronization bits reserved in the codeword to indicate whether the codeword is an idle or data codeword.

However, Leatherbury, Yang and Snowden fail to teach or suggest fairly utilizing selecting a code-word from at least five different types of code-words.

In another communication system wherein encapsulation utilization is utilized, Allison discloses framing/encapsulating in a communication system a multi-port adaptor a single MAC, wherein logic circuitry is reduced for transferring data between a host and TDM communication system, whereby each frame includes a preamble that that is stripped from the start of the frame delimiter, and CRC of remaining frame is determined/calculation, and the CRC is appended to a remaining portion of the frame to provide a complete frame, and the frame includes address pointers/frame markers, wherein the frame includes a start of frame pointer, idle state gap state, first data state , and groups of data (Abstract, Fig. 6, col. 4, line 6-51, col. 6, line 9-44, col. 7, line 13-22, col. 7 thru col. 9).

Therefore, it would have been obvious to one of ordinary skill in the art to implement the first byte of data/codeword as being the synchronization byte and encapsulating a variable length to fixed length code-words as taught by the teachings of Allison with the combined teachings of Leatherbury, Yang and Snowden for the purpose of improved efficiency in framing/encapsulating as it is associated in a communication system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prenell P. Jones whose telephone number is 571-272-3180. The examiner can normally be reached on 9:00-5:30.

Art Unit: 2619

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on 571-272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Wing F. Chan/
Supervisory Patent Examiner,
Art Unit 2619
4/9/08

Prenell P. Jones

April 7, 2008